

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

<b>JAMES MONTGOMERY, JACQUELINE MONTGOMERY Plaintiffs,</b>	: : : : : : : : : : : :	<b>CIVIL ACTION</b>
<b>vs.</b>		
<b>mitsubishi motors corp., mitsubishi motor sales of america, inc. and anne stork Defendants.</b>	: : : : : : : : : : : :	<b>No. 04-3234</b>

Gene E.K. Pratter, J.

Memorandum and Order

July 6, 2006

Plaintiffs James and Jacqueline Montgomery move to preclude the testimony of Jeya Padmanaban, an expert conducting statistical studies with respect to safety standards in the automotive industry proffered by Defendants Mitsubishi Motors Corporation and Mitsubishi Motors North America, Inc. (jointly, “Mitsubishi”),<sup>1</sup> in this case. If permitted to testify, Ms. Padmanaban reportedly will present evidence regarding the engineering stability of the Mitsubishi Montero Sport, the model of vehicle involved in the accident that occurred in this case. For the reasons that follow, the Court denies the motion to preclude Ms. Padmanaban’s testimony.

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<sup>1</sup> Although the case is captioned against Mitsubishi Motors Corp. and Mitsubishi Motor Sales of North America, Inc., the latter organization is now called Mitsubishi Motors North America, Inc.. Answer to Complaint at 1. The proper name of this Defendant, Mitsubishi Motors North America, Inc., shall be used throughout this Memorandum.

## **FACTUAL BACKGROUND**

This action arises out of a fatal auto accident that occurred on July 23, 2002. The Plaintiffs' son, Garrett Montgomery, was a passenger in an MY2000 Mitsubishi Montero Sport when the vehicle was struck by another vehicle driven by Third Party Defendant Anne Stork. The Montero rolled over, and Garrett Montgomery was killed.

The Montgomerys commenced this action with the filing of their Complaint on July 8, 2004, alleging that Mitsubishi caused their son's death by "the design and manufacture of a defective motor vehicle and because of Defendants' negligence, carelessness and reckless disregard for the safety of others." Complaint at ¶ 13. Mitsubishi answered the Complaint on August 19, 2004, asserting various affirmative defenses. The parties conducted discovery, including deposing several expert witnesses. Discovery has been completed. The Montgomerys move for an order excluding the testimony of Jeya Padmanaban, and Mitsubishi has responded to the Motion. A hearing on the Motion was held, and the Court's findings of fact and conclusions of law follow.

## **FINDINGS OF FACT**

1. Ms. Padmanaban is a statistician with more than 20 years of experience in the area of automotive safety research. J. Padmanaban Curriculum Vitae at 1. Ms. Padmanaban has a bachelor's degree in mathematics and a master of science degree in operations research and statistics. Id.

2. Ms. Padmanaban is presently the president of JP Research, Incorporated ("JP Research"), a company that she owns. Apr. 5. Tr. at 106:2-5. Ms. Padmanaban has worked as a statistician reviewing accident and injury data collected by local and federal agencies for the past

20 years. Apr. 5 Tr. at 106:9-11.

3. In addition to her work as a statistician, Ms. Padmanaban has taught courses at Stanford University concerning risks of injury in an automobile with respect to older drivers and with respect to women in vehicles where airbags are deployed. Apr. 5 Tr. at 106:22-24. Ms. Padmanaban has also worked with the California Highway Patrol to establish a risk profile relating to traffic injuries from accidents occurring at certain intersections. Apr. 5 Tr. at 106:24-25; 107:1-2.

4. Ms. Padmanaban has authored approximately 20 to 30 peer reviewed papers that examine field data analyzing the risk of injury in automobile accidents, including the factors associated with different types of automobile accidents. Apr. 5 Tr. at 108:18-23.

5. Although Ms. Padmanaban has prepared analyses for use in the context of litigation, she has also prepared research analyses in other contexts, including research projects for automobile manufacturers, research organizations and vehicle component manufacturers. Apr. 5 Tr. at 111:9-15.

6. In undertaking her work with respect to this case, Ms. Padmanaban utilized data from “all the publicly available data sources that are collected by [the National Highway Traffic Safety Administration (“NHTSA”)],” as well as data from state patrol agency databases that include information on occupants, cars, vehicles and “accident-related factors.” Apr. 5 Tr. at 109:17-21.

7. Ms. Padmanaban conducted three types of analysis relating to this case. Apr. 5 Tr. at 109:24-25. In the first analysis, Ms. Padmanaban compared the risk of fatality or injury for an occupant in a Mitsubishi Montero four-wheel drive vehicle to the same

risk in occupants of other sports utility vehicles. Apr. 5 Tr. at 110:1-3. The methodology applied by Ms. Padmanaban in this analysis is the same methodology NHTSA applies in assessing whether there is a defect in a particular vehicle. Apr. 5 Tr. at 112:19-21;113:7-8.

8. Her second analysis examined the same databases to ascertain factors associated with rollover accidents. Apr. 5 Tr. at 110:9-11. The methodology applied in this analysis corresponds to an assessment of the relationship between static stability factor and rollover risk that has been used by injury epidemiologists, biostatisticians and accident data analysts from NHTSA. Apr. 5 Tr. at 114:10-20.

9. The third analysis Ms. Padmanaban conducted was an examination of the severity of a rollover accident where the vehicle rolls three or more times, as well as the risk(s) an occupant in such a vehicle might face. Apr. 5 Tr. at 110:18-24.

10. The data used to conduct these analyses was drawn from three databases. The first database is referred to as the Fatal Accident Reporting System, or “FARS.” Apr. 5 Tr. at 115:11. This database, which is maintained by NHTSA, is a census of all fatal traffic crashes that occur on United States roads. Apr. 5 Tr. at 115:12-15. The data in the FARS database includes vehicle identification numbers and more than 200 other variables. Apr. 5 Tr. at 115:22-25. The data in this database has been maintained since 1975. Apr. 5 Tr. at 115:15.

11. The second database from which Ms. Padmanaban drew data, called the National Analysis Sampling System (“NASS”), contains a sample of all accidents that occurred on United States roads. Apr. 5 Tr. at 116:5-8. This database, which is also maintained by NHTSA, is constructed from a sample of 5,000 accidents across the United States. Apr. 5 Tr. at 116:9-10. The data in this database contains more detailed information than the FARS database,

and includes information on some 500 variables. Apr. 5 Tr. at 116:10-18. The information in this database has been collected for more than 15 years. Apr. 5 Tr. at 116:18.

12. The third database from which Ms. Padmanaban drew information is State Accident Data, which is comprised of accident files reported on standard forms by police officers. Apr. 5 Tr. at 116:23-25; 117:1-4. Because not all of the states have computerized systems for the collection of such data, this database contains information from only 10 states. Apr. 5 Tr. at 117:13-17. According to Ms. Padmanaban, the data contained in this database is “typically used by NHTSA on rollover research or a lot of . . . airbag research. . . .” Apr. 5 Tr. at 14-15.

13. The information in the three databases from which Ms. Padmanaban drew her data has been used and relied upon by other organizations, such as the University of North Carolina Highway Safety Research Center, George Washington University, University of Pennsylvania Children’s Hospital, Harvard Risk Analysis Group and NHTSA. Apr. 5. Tr. at 118:14-25; 119:1-12.

#### **CONCLUSIONS OF LAW**

14. Federal Rule of Evidence 702, which governs the admissibility of expert testimony, provides:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

FED. R. EVID. 702.

15. In Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993), the Supreme Court imposed upon district courts the role of a gatekeeper to “ensure that any and all scientific evidence is not only relevant, but reliable.” ID Sec. Sys. Canada, Inc. v. Checkpoint Sys., Inc., 198 F. Supp. 2d 598, 601-02 (E.D. Pa. 2002) (quoting Daubert, 509 U.S. at 589); see also Schneider v. Fried, 320 F.3d 396, 404 (3d Cir. 2003).

16. When “faced with a proffer of expert scientific testimony . . . the trial judge must determine at the outset, pursuant to Rule 104(a), whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand and determine a fact in issue.” Id. at 602 (quoting Daubert, 509 U.S. at 592).

17. This gatekeeping function of the district court extends beyond scientific testimony to “testimony based on . . . ‘technical’ and ‘other specialized’ knowledge.” Id. (quoting Kumho Tire Co. v. Carmichael, 526 U.S. 137, 141, 119 S. Ct. 1167, 143 L. Ed. 2d 238 (1999)).

18. Federal Rule of Evidence 702, as interpreted in Daubert, provides “three distinct substantive restrictions on the admission of expert testimony: qualifications, reliability and fit.” Elcock v. Kmart Corp., 233 F.3d 734, 741 (3d Cir. 2000). The party offering the expert testimony has the burden of establishing that the proffered testimony meets each of the three requirements by a preponderance of the evidence. ID Sec. Sys. Can., Inc., 198 F. Supp. 2d at 602 (citing Padillas v. Stork-Gamco, Inc., 186 F.3d 412, 418 (3d Cir. 1999)).

### **Qualifications of Ms. Padmanaban**

19. The first aspect of a Daubert analysis, whether the witness is qualified as

an expert, requires a witness to have “specialized knowledge” about the area of the proposed testimony. Elcock v. Kmart Corp., 233 F3d 734, 741 (3d Cir. 2000). The basis of such knowledge may include “practical experience as well as academic training and credentials.” Id. This requirement has been interpreted liberally to encompass “a broad range of knowledge, skills, and training.” Id. (quoting Waldorf v. Shuta, 142 F.3d 601 (3d Cir. 1998)).

20. The Montgomerys do not challenge Ms. Padmanaban’s qualifications to testify as an expert, but rather whether the data she used and methodology she applied was reliable. Therefore, the Court need not address the propriety of Ms. Padmanaban’s expert qualifications.<sup>2</sup>

### **Reliability of Ms. Padmanaban’s Opinions**

21. The second Daubert prong requires an expert’s testimony to be reliable. Id. When an expert testifies to “scientific knowledge,” the expert’s opinions “must be based on the ‘methods and procedures of science’ rather than on ‘subjective belief or unsupported speculation’; the expert must have ‘good grounds’ for his or her belief.” In re Paoli Railroad Yard Litigation, 35 F.3d 717, 743 (3d Cir. 1994). The Supreme Court has noted that a district court “must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable.” Id. (citing Kumho Tire, 526 U.S. 137 (1999)). That is to say, a trial court should consider the specific factors identified in Daubert where they are “reasonable measures of the reliability of expert testimony.” Kumho Tire, 526 U.S. at 152.

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<sup>2</sup> The Court also observes that upon review of the record, Ms. Padmanaban’s education and experience are sufficient to support her proposed testimony as an expert statistician.

22. In considering whether there are “good grounds” for an expert’s opinions, and, therefore, whether the opinion meets the reliability requirement, district courts are advised to look at a series of factors, including:

(1) whether a method consists of a testable hypothesis; (2) whether the method has been subject to peer review; (3) the known or potential rate of error; (4) the existence and maintenance of standards controlling the technique’s operation; (5) whether the method is generally accepted; (6) the relationship of the technique to methods which have been established to be reliable; (7) the qualifications of the expert witness testifying based on the methodology; and (8) the non-judicial uses to which the method has been put.

In re Paoli, 35 F.3d at 742 n.8. This list of factors “is non-exclusive and . . . each factor need not be applied in every case.” Elcock, 233 F.3d at 746.<sup>3</sup>

23. The Montgomerys assert that because the data Ms. Padmanaban presents is statistical in nature, it is not admissible as evidence in a products liability case unless the data is shown to relate to circumstances that are directly comparable to the crash at hand. Memorandum Supporting Motion to Exclude Ms. Padmanaban at 11. In support of their argument, the Plaintiffs cite to Harsh v. Petroll, 840 A.2d 404 (Pa. Commw. Ct. 2004). In Harsh, the plaintiffs were the family members of a young family that was killed when the car that they were driving became engulfed in flames after a rear-end collision with a tractor-trailer. Harsh, 840 A.2d at 413. The plaintiffs sued both the driver of the tractor trailer and General Motors, which had designed and manufactured the car, asserting theories of negligence and strict product liability,

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<sup>3</sup> Nonetheless, to the extent the Daubert factors are “reasonable measures of the reliability” of an expert’s testimony, they should be considered by the district court. Elcock v. Kmart Corp., 233 F.3d 734, 746 (3d Cir. 2000).



respectively. At trial, General Motors attempted to introduce evidence of crash tests it had conducted to simulate what had happened to the plaintiffs' vehicle. Harsh, 840 A.2d at 419. The trial court excluded the evidence after concluding that the manner in which the tests were conducted were not substantially similar to the accident that caused the injuries. The Commonwealth Court affirmed the trial court's ruling with respect to the evidence, noting that the proposed evidence would have had the effect of injecting negligence standards into the case.

24. The "substantial similarity" doctrine arises from strict liability law in Pennsylvania. Under Pennsylvania law, in a products liability case grounded in strict liability,<sup>4</sup> it is the product, and not the manufacturer's conduct, that is on trial. Hutchinson v. Penske Truck Leasing Co., 876 A.2d 978, 982-83 (Pa. Super. Ct. 2005). The Pennsylvania Supreme Court has concluded that the introduction of evidence which would support a theory of negligence to establish a claim for strict product liability is not permitted. Lewis v. Coffing Hoist Division, 528 A.2d 590, 594 (Pa. 1987) (finding that any evidence that would go to the concept of reasonable care has no place in an action based on strict liability in tort).

25. Under the crashworthiness doctrine, which is a "subset of strict products liability," evidence of other, similar accidents involving the product may only be admitted to prove defectiveness if the proponent of the evidence establishes that there is a "substantial

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<sup>4</sup> At the hearing on this motion, counsel for the Montgomerys confirmed that the presentation of the Plaintiffs' case will be grounded exclusively on strict liability under Pennsylvania law. Apr. 5. Tr. at 27:9-11. Thus, the Montgomerys assert that to the extent that the substance of Ms. Padmanaban's report and testimony constitutes evidence that the Montero Sport met industry standards, the evidence would not be admissible at trial. Memorandum Supporting Motion to Exclude Ms. Padmanaban at 4; see Harsh v. Petroll, 840 A.2d 404, 425 (Pa. Commw. Ct. 2004).

similarity” between the other accidents and the accident which gave rise to the injuries in question. Hutchinson v. Penske Truck Leasing Co., 876 A.2d 978, 983 (Pa. Super Ct. 2005). To make a reasoned “substantial similarity” assessment, a court must be apprised of the specific facts of previous accidents being considered as comparative. Barker v. Deere and Co., 60 F.3d 158, 163 (3d Cir. 1995).

26. Therefore, the application of the substantial similarity doctrine in this case must be determined based on the context of Ms. Padmanaban’s analysis. Here, Ms. Padmanaban does not purport to re-create, or simulate, the accident that occurred. As counsel for Mitsubishi explained at the hearing on this motion, the focus of Ms. Padmanaban’s analysis in this case is the single variable of static stability, and not a comparison of this accident to other accidents. Apr. 5. Tr. at 121:15-18. Counsel for Mitsubishi went on to specifically represent that Mitsubishi does not intend to present Ms. Padmanaban’s report and opinion testimony for the purpose of comparing what happened to the vehicle involved in this accident with other accidents, but rather focuses on “how the performance of this particular vehicle relates to the performance of other vehicles specifically related to the static stability factor.” Apr. 5 Tr. at 121:19-22. In short, Ms. Padmanaban’s report and testimony are presented not to compare this accident to the performance of a Montero Sport or other vehicles in other accidents, nor is it to be presented to inject evidence of an industry standard by which Mitsubishi allegedly abided.<sup>5</sup> Rather, Mitsubishi plans to present this evidence to address the singular issue of the static stability factor and its effect on a vehicle’s potential to roll over. In this context, the evidence

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<sup>5</sup> That is, it is possible that Ms. Padmanaban’s testimony does not present evidence of industry standards, but rather discusses a comparison between static stability factors and the importance of the static stability factor in designing a vehicle.

does not run afoul of the substantial similarity doctrine or Pennsylvania strict products liability law.

27. The Montgomerys next argue that Ms. Padmanaban's report and testimony must be excluded because the analyses she conducted are not scientifically valid. In support of this assertion, the Montgomerys present a variety of arguments.

28. For example, the Montgomerys first assert that the data upon which Ms. Padmanaban's conclusions are based is inherently flawed because the data has not been validated by testing in accordance with the "scientific methodology . . . [of] generating hypotheses and testing them to see if they can be falsified." Motion to Exclude Ms. Padmanaban at 10. The Court does not agree with this assessment of the data. At the hearing on this motion, Ms. Padmanaban demonstrated that she is well versed in each of the databases she used, including that she is familiar with the sources from which the data have been drawn and the variables that each particular database includes. Additionally, these databases have been used to provide data for scientific testing by NHTSA and other organizations, for at least the past 15-20 years.

29. The Montgomerys next argue that Ms. Padmanaban's "litigation-driven" opinions have never appeared in the form of scientifically reliable studies. Motion to Exclude Ms. Padmanaban at 10. At the hearing on this motion, Ms. Padmanaban testified that much of her work consists of "research projects for manufacturers" and "a lot of work for research organizations such as U.S. Car Committee," and that she works "for not just industry but also vehicle component manufacturers." Apr. 5 Tr. at 111:9-15. Ms. Padmanaban further explained that she has "done a lot of work for some of the research organizations that are not litigation related." Apr. 5 Tr. at 111:21-23. Ms. Padmanaban has also authored several papers concerning

risk analysis and vehicle safety for presentation at various professional society meetings.<sup>6</sup> See Jeya Padmanaban Curriculum Vitae at 2-5. Therefore, the Court rejects this argument.

30. The Montgomerys next argue that there is no ascertainable “rate of error” that may be used to test Ms. Padmanaban’s methodology because her testing is not based on any scientific method. Memorandum Supporting Motion to Exclude Ms. Padmanaban at 10. Although Ms. Padmanaban’s report is not particularly explicit as to her precise methodology, it is apparent that another statistician could, using the same data as Ms. Padmanaban, repeat her calculations to ascertain their accuracy. Thus, this criticism of Ms. Padmanaban’s report is not a valid basis for excluding her proposed testimony.

31. Finally, the Montgomerys argue that Ms. Padmanaban’s report and testimony must be excluded because the methodology applied is not generally accepted in the relevant scientific community. However, at the hearing Ms. Padmanaban testified that the same methodology is, in fact, used by other entities, including NHTSA, in making determinations about whether a vehicle is defective. Apr. 5 Tr. at 112:19-21; 113:7-8; 114:10-17. Thus, this criticism has not been validated.

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<sup>6</sup> For example, Ms. Padmanaban’s curriculum vitae includes publications such as “Crash Injury Experience of Elderly Drivers,” presented at the AAAM Symposium on Aging and Driving, Association for the Advancement of Automotive Medicine in 2001, “Automatic Seat Belt System Risk Assessment,” which was presented to the American Society of Mechanical Engineers Winter Annual Meeting in 1991, “A Risk Analysis of Unattended Vehicle Movement,” which was published in the Failure Analysis Associates Report to the United States Department of Transportation in 1983, and “An Examination of the Relationship Between Vehicle Mass, Wheelbase, and Safety,” presented to the American Society of Mechanical Engineers Conference in December 1989. Padmanaban Curriculum Vitae at 5

### Assistance to the Jury

32. The last prong of the Daubert analysis requires that the expert testimony “fit” by assisting the trier of fact. Oddi v. Ford Motor Co., 234 F.3d 136, 145 (3d Cir. 2000).

“Admissibility thus depends in part upon ‘the proffered connection between the scientific research or test result to be presented and particular disputed factual issues in the case.’” In re Paoli, 35 F.3d at 743. The “fit” standard does not require a proponent of the theory at issue to prove “their case twice.” Oddi, 234 F.3d at 145. They need not “demonstrate to the judge by a preponderance of evidence that the assessments of their experts are correct, they only have to demonstrate by a preponderance of evidence that they are reliable.” In re Paoli, 35 F.3d at 744. Thus, the test does not require that the opinion have “the best foundation” or be “demonstrably correct,” but only that the “particular opinion is based on valid reasoning and reliable methodology.” Oddi, 234 F.2d at 146. In assessing “fit,” a court must “examine the expert’s conclusions in order to determine whether they could reliably flow from the facts known to the expert and the methodology used.” Id.

33. Here, the Montgomerys attack the “fit” of Ms. Padmanaban’s opinion, arguing that even if the report meets the requirements set forth in Federal Rule of Evidence 702, Federal Rule of Evidence 403 permits its exclusion if the evidence might overwhelm, confuse or mislead the jury. Memorandum Supporting Motion to Exclude Ms. Padmanaban at 16. The Montgomerys specifically argue that the probative value of the proposed evidence is minimal and the potential for confusion arising from the absence of information about the other accidents in the databases utilized by Ms. Padmanaban greatly increases the prejudice effected by the evidence. Id.

34. As discussed above, the Court does not agree that the evidence presented in Ms. Padmanaban's report constitutes a comparison of the accident that occurred in this case to other accidents. Many of the experts on both sides of this case have focused on the static stability factor variable and the role it might have played in the design and testing of the Montero Sport as well as the potential role this factor played in the accident that occurred. As both parties have demonstrated through their pretrial filings, the facts underlying this case are complex and complicated. Therefore, it is fair to say that the opinions of experts will assist the jury in this strict liability case which will have to make the ultimate assessment as to the propriety of the design of the Montero Sport.

#### CONCLUSION

For the reasons discussed above, the Court concludes that Ms. Padmanaban is qualified to testify as an expert with respect to the static stability factor and its impact on vehicle design, and that her report and opinion testimony are sufficiently relevant and reliable, and that it will assist the jury in this case. The Plaintiffs' motion to exclude this testimony will, therefore, be denied. An appropriate Order follows.

S/Gene E.K. Pratter  
Gene E.K. Pratter  
United States District Judge

July 6, 2006

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<b>Defendants.</b>	:	<b>NO. 04-3234</b>

**O R D E R**

**AND NOW**, this 6th day of July, 2006, upon consideration of Plaintiffs' Daubert Motion to Exclude Testimony of Mitsubishi's Expert Witness Padmanaban (Docket No. 38), the responses thereto (Docket Nos. 59, 75), and following oral argument ably presented by the parties' counsel, it is **ORDERED** that the Motion is **DENIED**.

BY THE COURT:

S/Gene E.K. Pratter  
GENE E.K. PRATTER  
United States District Judge